

**UNIVERSITI TEKNOLOGI PETRONAS**



**OBJECT ORIENTED PROGRAMMING  
TFB1033/TEB1043  
SEMESTER 2 2024  
PROPOSAL FOR PROJECT**

**GROUP iEmployee, An  
Employee Management  
System**

**System  
LECTURER:**

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**PREPARED BY:**

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## **Introduction:**

In today's fast-paced work environments, keeping track of employees is crucial for businesses to run smoothly. So, our project focuses on creating an Employee Management System that's easy to use and helps with everyday tasks that includes employee records, track attendance, manage leave, and assess performance. By making it simple to log in, control visibility, and giving clear reports, our system will make managing employees a breeze, boosting efficiency and teamwork.

## **Objective:**

- Create a system capable of accurately and efficiently determining an organization's attendance for management purposes.
- Create a fully transparent attendance record that substantiates employee accountability.
- Capable of analyzing employee performance through data-driven decision-making system based on employee's attendance and giving out an individual performance report.

## **System Architecture (Client-server architecture)**

### **Server Component:**

- The server component hosts the central database where employee data, attendance records, and other relevant information are stored.
- It provides APIs (Application Programming Interfaces) that allow clients to interact with the database and perform operations such as retrieving employee information, updating attendance records, and generating reports.
- The server handles requests from multiple clients concurrently, ensuring data consistency and integrity.

### **Client Component:**

- The client component consists of user interfaces (UI) through which employees and administrators interact with the system.
- Employees use client interfaces to clock in/out, request leave, view their profiles, and access other features related to their employment.
- Administrators use client interfaces to manage employee data, approve leave requests, generate reports, and perform administrative tasks.
- Clients communicate with the server over a network, sending requests to fetch or modify data and receiving responses accordingly

## User experience Design (UX)

**User-Centered Design:** Focus on understanding the needs, preferences, and workflows of the target users, including employees and administrators.

**Clear Navigation:** Create a logical and intuitive navigation structure that allows users to easily find and access the features they need. We use clear labels, consistent terminology, and visual cues to guide users through the application.

**Task-Oriented Workflows:** Organize workflows and user interactions around common tasks and activities, such as clocking in/out, requesting leave, or viewing attendance records. Streamline processes and minimize the number of steps required to complete tasks.

## Functionality

1. **User Authentication and Authorization:** Secure login for employees and administrators. Role-based access control to manage user permissions.
2. **Employee Profiles:** Store and manage employee information such as personal details, contact information, and job roles.
3. **Attendance Tracking:** Record clock-in/out times, work hours, and absences.
4. **Leave Management:** Allow employees to request time off, vacations, or sick leaves. Managers can approve or reject leave requests and maintain leave balances.
5. **Performance Evaluation:** Set up performance evaluation criteria and schedules. Collect feedback from managers, peers, and self-assessments.
6. **Payroll Processing:** Calculate salaries, wages, and benefits based on attendance records and pay rates.
7. **Employee Communication:** Facilitate communication between employees and managers. Announcements, notifications, and centralized messaging such as providing links for a third party communication app such as whatsapp.
8. **Reporting and Analytics:** Generate reports on attendance, leave balances, performance evaluations, and training metrics. Analyze data to identify trends and track key performance indicators.

## Market Potential

- **Growing Demand:** As businesses of all sizes continue to recognize the importance of efficient HR management, there's a growing demand for comprehensive employee management solutions. Our system addresses this need by offering a user-friendly platform for managing various HR tasks.
- **Diverse Industries:** The need for employee management systems spans across diverse industries, including healthcare, education, retail, manufacturing, technology, and more. Our system's flexibility and customizable features make it suitable for businesses across different sectors.
- **Global Reach:** With the increasing globalization of businesses, there's a demand for HR solutions that can accommodate remote workforces and multinational operations. Our system's accessibility via web and mobile interfaces makes it ideal for businesses with distributed teams.
- **Compliance Requirements:** Businesses face increasingly complex regulatory requirements related to employee management, including labor laws, data privacy regulations, and industry-specific compliance standards. Your system's ability to automate compliance tasks and generate accurate reports helps organizations ensure regulatory compliance.













